**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2022-0085; Project Identifier MCAI-2021-00498-T]**

**RIN 2120-AA64**

# Airworthiness Directives; Bombardier, Inc., Airplanes

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for certain Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes. This proposed AD was prompted by reports of oxygen leaks caused by cracked, brittle, or broken oxygen hoses that were found during scheduled maintenance tests of the airplane oxygen system. This proposed AD would require an inspection of the oxygen hose assembly to determine if an affected part number is installed, and replacement of affected oxygen hoses. For certain airplanes, this proposed AD would allow repetitive testing of the oxygen system until affected hoses are replaced. This proposed AD would also prohibit installation of an affected oxygen hose. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to https://www.regulations.gov. Follow the instructions for submitting comments.

• Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email ac.yul@aero.bombardier.com; Internet https://www.bombardier.com. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

**Examining the AD Docket**

You may examine the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA-2022-0085; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

**FOR FURTHER INFORMATION CONTACT:** Elizabeth Dowling, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include

"Docket No. FAA-2022-0085; Project Identifier MCAI-2021-00498-T" at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to https://www.regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

**Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Elizabeth Dowling, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

**Background**

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued TCCA AD CF-2021-17, dated April 28, 2021 (also referred to after this as the Mandatory Continuing Airworthiness Information, or the MCAI), to correct an unsafe condition for certain Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes. You may examine the MCAI in the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA-2022-0085.

This proposed AD was prompted by reports of oxygen leaks caused by cracked, brittle, or broken oxygen hoses that were found during scheduled maintenance tests of the airplane oxygen system. The FAA is proposing this AD to prevent a leak in the oxygen line, which may result in failure to provide oxygen to passengers and crew and result in an oxygen-enriched atmosphere creating a fire risk on the airplane. See the MCAI for additional background information.

**Related Service Information Under 1 CFR Part 51**

Bombardier has issued the following service information.

- Bombardier Service Bulletin 700-1A11-35-014, Revision 01, dated February 12, 2021.
- Bombardier Service Bulletin 700-35-015, Revision 01, dated February 12, 2021.
- Bombardier Service Bulletin 700-35-5005, Revision 01, dated February 12, 2021.
- Bombardier Service Bulletin 700-35-6005, Revision 01, dated February 12, 2021.
- Bombardier Service Bulletin 700-35-6501, Revision 01, dated February 12, 2021.

This service information describes procedures for doing an inspection of the oxygen hose assembly installations to determine if a part number within the series O2C20T1 is installed, and replacing the oxygen hose if necessary. For certain airplanes,

the service information specifies optional repetitive testing of the oxygen system that would allow for delay of the replacement. These documents are distinct since they apply to different airplane serial numbers.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

**FAA's Determination**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the State of Design Authority, the FAA has been notified of the unsafe condition described in the MCAI and service information referenced above. The FAA is proposing this AD because the FAA evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop on other products of the same type design.

**Proposed AD Requirements in this NPRM**

This proposed AD would require accomplishing the actions specified in the service information already described. This proposed AD would also prohibit installation of an affected oxygen hose.

**Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect 409 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

**Estimated costs for required actions**

| Labor cost | Parts cost | Cost per product | Cost on U.S. operators |
|---|---|---|---|
| Up to 36 work-hours X $85 per hour = Up to $3,060 | $0 | Up to $3,060 | Up to $1,251,540 |

**Estimated costs for optional actions**

| Labor cost | Parts cost | Cost per product |
|---|---|---|
| Up to 25 work-hours X $85 per hour = Up to $2,125 | Up to $125 | Up to $2,250 |

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

**Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

**Regulatory Findings**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national

Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

**PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**Bombardier, Inc.:** Docket No. FAA-2022-0085; Project Identifier MCAI-2021-00498-T.

**(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes, certificated in any category, serial numbers 9002 through 9879 inclusive and 9998.

**(d) Subject**

Air Transport Association (ATA) of America Code 35, Oxygen.

**(e) Unsafe Condition**

This AD was prompted by reports of oxygen leaks caused by cracked, brittle or broken oxygen hoses that were found during scheduled maintenance tests of the airplane oxygen system. The FAA is issuing this AD to address a leak in the oxygen line, which may result in failure to provide oxygen to passengers and crew and result in an oxygen enriched atmosphere creating a fire risk on the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspection and Replacement**

Within 6 months after the effective date of this AD: Do an inspection of the oxygen hose assembly to determine if any hose having a part number (P/N) in the O2C20T1 series is installed, in accordance with the Accomplishment Instructions of the applicable service information specified in figure 1 to paragraph (g) of this AD. If P/N O2C20T1 series is installed, or if any test fails as specified in paragraph (h) of this AD: Before further flight, replace all the oxygen hoses, in accordance with the Accomplishment Instructions of the applicable service information specified in figure 1 to paragraph (g) of this AD.

**Figure 1 to paragraph (g) –** *Service Information*

| **Model–** | **Serial Numbers–** | **Bombardier Service Bulletin–** |
|---|---|---|
| BD-700-1A10 airplanes | 9002 through 9005 inclusive, 9007 through 9014 inclusive, 9016 through 9020 inclusive, 9022 through 9026 inclusive, 9028 through 9033 inclusive, 9035, 9036, 9038 through 9051 inclusive, 9053 through 9055 inclusive, 9058 through 9080 inclusive, 9082 through 9106 inclusive, 9108 through 9122 inclusive, 9124 through 9129 inclusive, 9133, 9134, 9136 through 9171 inclusive, 9175, 9179 through 9286 inclusive, 9290 through 9312 inclusive, 9314 through 9354 inclusive, 9357, and 9360 through 9429 inclusive | 700-35-015, Revision 01, dated February 12, 2021 |
| BD-700-1A10 airplanes | 9381, 9432 through 9491 inclusive, 9496 through 9505 inclusive, 9507 through 9515 inclusive, 9518 through 9525 inclusive, 9527 through 9619 inclusive, 9622 through 9654 inclusive, 9657 through 9673 inclusive, 9677, 9680 through 9684 inclusive, 9686 through 9712 inclusive, 9716 through 9742 inclusive, 9744 through 9785 inclusive, 9788 through 9853 inclusive, 9856 through 9867 inclusive, 9870, 9873 through 9878 inclusive | 700-35-6005, Revision 01, dated February 12, 2021 |

| Model– | Serial Numbers– | Bombardier Service Bulletin– |
|---|---|---|
| BD-700-1A10 airplanes | 9861 and 9872 | 700-35-6501 Revision 01, dated February 12, 2021 |
| BD-700-1A11 airplanes | 9130 through 9209 inclusive, 9212 through 9305 inclusive, 9311 through 9359 inclusive, 9366 through 9430 inclusive, and 9998 | 700-1A11-35-014, Revision 01, dated February 12, 2021 |
| BD-700-1A11 airplanes | 9386, 9401 through 9613 inclusive, and 9618 through 9879 inclusive | 700-35-5005, Revision 01, dated February 12, 2021 |

**(h) Optional Interim Testing for Certain Airplanes**

For airplanes identified in figure 2 of paragraph (h) of this AD: The oxygen hose replacement, if required by paragraph (g) of this AD, may be delayed if all conditions specified in paragraphs (h)(1) through (3) of this AD are met.

(1) The oxygen system is tested at the applicable times specified in paragraph (h)(1)(i) or (ii) of this AD, in accordance with the Accomplishment Instructions of the applicable service information specified in figure 2 to paragraph (h) of this AD.

(i) If the Aircraft Completion Center Supplemental Type Certificate (STC) for the passenger cabin interior was issued within 5 years before the effective date of this AD: The oxygen system is tested within 6 months after the effective date of this AD, and thereafter at intervals not to exceed 30 months.

(ii) If the Aircraft Completion Center STC for the passenger cabin interior was issued 5 years or more before the effective date of this AD: The oxygen system is tested within 6 months after the effective date of this AD, and thereafter at intervals not to exceed 15 months.

(2) All P/N O2C20T1 series hoses are replaced before further flight as specified in paragraph (g) of this AD after any hose fails any test.

(3) Except as specified by paragraph (h)(2) of this AD, all P/N O2C20T1 series hoses are replaced within 10 years after issuance of the Aircraft Completion Center STC for the passenger cabin interior as specified in paragraph (g) of this AD provided that all P/N O2C20T1 series hoses in the flight compartment and the third crew (left-hand side enclosure) are replaced within 6 months after the effective date of this AD.

**Figure 2 to paragraph (h) –** *Service Information for Optional Interim Testing*

| **Model–** | **Serial Numbers–** | **Bombardier Service Bulletin–** |
|---|---|---|
| BD-700-1A10 airplanes | 9381, 9432 through 9491 inclusive, 9496 through 9505 inclusive, 9507 through 9515 inclusive, 9518 through 9525 inclusive, 9527 through 9619 inclusive, 9622 through 9654 inclusive, 9657 through 9673 inclusive, 9677, 9680 through 9684 inclusive, 9686 through 9712 inclusive, 9716 through 9742 inclusive, 9744 through 9785 inclusive, 9788 through 9853, 9856 through 9867 inclusive, 9870, 9873 through 9878 inclusive. | 700-35-6005, Revision 01, dated February 12, 2021 |
| BD-700-1A10 airplanes | 9861 and 9872 | 700-35-6501 Revision 01, dated February 12, 2021 |
| BD-700-1A11 airplanes | 9386, 9401 through 9613 inclusive, and 9618 through 9879 inclusive | 700-35-5005, Revision 01, dated February 12, 2021 |

**(i) Parts Installation Prohibition**

As of the effective date of this AD, no person may install an oxygen hose assembly having a P/N in the O2C20T1 series on any airplane.

**(j) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using the applicable service information specified in paragraphs (j)(1) through (5) of this AD.

(1) Bombardier Service Bulletin 700-1A11-35-014, dated September 28, 2020.

(2) Bombardier Service Bulletin 700-35-015, dated September 28, 2020.

(3) Bombardier Service Bulletin 700-35-5005, dated September 28, 2020.

(4) Bombardier Service Bulletin 700-35-6005, dated September 28, 2020.

(5) Bombardier Service Bulletin 700-35-6501, dated September 28, 2020.

**(k) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs):* The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer:* For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(l) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) TCCA AD CF-2021-17, dated April 28, 2021, for related information. This MCAI may be found in the AD docket on the Internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2022-0085.

(2) For more information about this AD, contact Elizabeth Dowling, Aerospace

Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

(3) For service information identified in this AD, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email ac.yul@aero.bombardier.com; Internet https://www.bombardier.com. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued on January 28, 2022.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.
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